DOCUMENT RESUME

ED 392 019 CS 012 352

AUTHOR	Sonnenschein, Susan; And Others
TITLE	Strands of Emergent Literacy and Their Antecedents in the Home: Urban Preschoolers' Early Literacy Development. Reading Research Report No. 48.
INSTITUTION	National Reading Research Center, Athens, GA.; National Reading Research Center, College Park, MD.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE	96
CONTRACT	117A20007
NOTE	49p.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Emergent Literacy; *Family Environment; *Family Influence; Longitudinal Studies; Parent Attitudes; *Preschool Children; Preschool Education; Reading Research; Sociocultural Patterns; *Socioeconomic Influences; Urban Education
IDENTIFIERS	Maryland (Baltimore); Phonological Awareness; Print Awareness

ABSTRACT

This report considers preschool children's early literacy-related competencies. The data are from the first 2 years of the Early Childhood Project, a longitudinal investigation following preschool children from different sociocultural groups in Baltimore, Maryland, through their transition into the early years of elementary school. Children were tested in 14 early literacy-related competencies during the spring of both their pre-kindergarten and kindergarten years. The tasks measured aspects of an Orientation towards Print, Phonological Awareness, or Narrative Competence. Some of the tasks used were standard reading readiness measures. A second series of analyses considered the relation between home practices/experiences and emergent literacy development. Children were tested to see whether being brought up in a home predominantly oriented toward the view that literacy is a source of entertainment is more or less likely to develop an Orientation towards Print, Phonological Awareness, of Narrative Competence than a child being brought up in a home where literacy is more typically viewed as a set of skills to be acquired. These different approaches to literacy were derived from parents' answers to questions about how to help foster reading as well as a review of the children's home activities. Taking an approach that literacy is a source of entertainment was positively related to an orientation toward print as well as aspects of narrative competence and phonological awareness. In general, taking the approach that literacy is a set of skills to be learned was either negatively related or not significantly related to the three strands. (Contains 51 references and 15 tables of data.) (Author/RS)

ED 392 019

Strands of Emergent Literacy and Their Antecedents in the Home: Urban Preschoolers' Early Literacy Development

Susan Sonnenschein
Linda Baker
Robert Serpell
Deborah Scher
Sylvia Fernandez-Fein
Kimberly A. Munsterman
Department of Psychology
University of Maryland Baltimore County

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
✓ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

CS 012352

NRRC
National
Reading Research
Center

READING RESEARCH REPORT NO. 48
Winter 1996

BEST COPY AVAILABLE

NRRC

National Reading Research Center

Strands of Emergent Literacy and their Antecedents in the Home: Urban Preschoolers' Early Literacy Development

Susan Sonnenschein
Linda Baker
Robert Serpell
Deborah Scher
Sylvia Fernandez-Fein
Kimberly A. Munsterman
Department of Psychology
University of Maryland Baltimore County

READING RESEARCH REPORT NO. 48
Winter 1996

The work reported herein is a National Reading Research Project of the University of Georgia and University of Maryland. It was supported under the Educational Research and Development Centers Program (PR/AWARD NO. 117A20007) as administered by the Office of Educational Research and Improvement, U.S. Department of Education. The findings and opinions expressed here do not necessarily reflect the position or policies of the National Reading Research Center, the Office of Educational Research and Improvement, or the U.S. Department of Education.

NRRC National Reading Research Center

Executive Committee
Donna E. Alvermann, Co-Director
University of Georgia
John T. Guthrie, Co-Director
University of Maryland College Park
James F. Baumann, Associate Director
University of Georgia
Patricia S. Koskinen, Associate Director
University of Maryland College Park
Nancy B. Mizelle, Acting Associate Director
University of Georgia
Jamie Lynn Metsala, Interim Associate Director
University of Maryland College Park
Penny Oldfather
University of Georgia
John F. O'Flahavan
University of Maryland College Park
James V. Hoffman
University of Texas at Austin
Cynthia R. Hynd
University of Georgia
Robert Serpell
University of Maryland Baltimore County
Betty Shockley
Clarke County School District, Athens, Georgia
Linda DeGroff
University of Georgia

Publications Editors

Research Reports and Perspectives
Linda DeGroff, Editor
University of Georgia
James V. Hoffman, Associate Editor
University of Texas at Austin
Mariam Jean Dreher, Associate Editor
University of Maryland College Park
Instructional Resources
Lee Galda, *University of Georgia*
Research Highlights
William G. Holliday
University of Maryland College Park
Policy Briefs
James V. Hoffman
University of Texas at Austin
Videos
Shawn M. Glynn, *University of Georgia*

NRRC Staff
Barbara F. Howard, Office Manager
Kathy B. Davis, Senior Secretary
University of Georgia

Barbara A. Neitzey, Administrative Assistant
Valerie Tyra, Accountant
University of Maryland College Park

National Advisory Board
Phyllis W. Aldrich
Saratoga Warren Board of Cooperative Educational Services, Saratoga Springs, New York
Arthur N. Applebee
State University of New York, Albany
Ronald S. Brandt
Association for Supervision and Curriculum Development
Marshá T. DeLain
Delaware Department of Public Instruction
Carl A. Grant
University of Wisconsin-Madison
Walter Kintsch
University of Colorado at Boulder
Robert L. Linn
University of Colorado at Boulder
Luis C. Moll
University of Arizona
Carol M. Santa
School District No. 5 Kalispell, Montana
Anne P. Sweet
Office of Educational Research and Improvement, U.S. Department of Education
Louise Cherry Wilkinson
Rutgers University

Production Editor
Katherine P. Hutchison
University of Georgia

Dissemination Coordinator
Jordana E. Rich
University of Georgia

Text Formatter
Ann Marie Vanstone
University of Georgia

NRRC - University of Georgia
318 Aderhold
University of Georgia
Athens, Georgia 30602-7125
(706) 542-3674 Fax: (706) 542-3678
INTERNET: NRRC@uga.cc.uga.edu

NRRC - University of Maryland College Park
3216 J. M. Patterson Building
University of Maryland
College Park, Maryland 20742
(301) 405-8035 Fax: (301) 314-9625
INTERNET: NRRC@umail.umd.edu

About the National Reading Research Center

The National Reading Research Center (NRRC) is funded by the Office of Educational Research and Improvement of the U.S. Department of Education to conduct research on reading and reading instruction. The NRRC is operated by a consortium of the University of Georgia and the University of Maryland College Park in collaboration with researchers at several institutions nationwide.

The NRRC's mission is to discover and document those conditions in homes, schools, and communities that encourage children to become skilled, enthusiastic, lifelong readers. NRRC researchers are committed to advancing the development of instructional programs sensitive to the cognitive, sociocultural, and motivational factors that affect children's success in reading. NRRC researchers from a variety of disciplines conduct studies with teachers and students from widely diverse cultural and socioeconomic backgrounds in pre-kindergarten through grade 12 classrooms. Research projects deal with the influence of family and family-school interactions on the development of literacy; the interaction of sociocultural factors and motivation to read; the impact of literature-based reading programs on reading achievement; the effects of reading strategies instruction on comprehension and critical thinking in literature, science, and history; the influence of innovative group participation structures on motivation and learning; the potential of computer technology to enhance literacy; and the development of methods and standards for alternative literacy assessments.

The NRRC is further committed to the participation of teachers as full partners in its research. A better understanding of how teachers view the development of literacy, how they use knowledge from research, and how they approach change in the classroom is crucial to improving instruction. To further this understanding, the NRRC conducts school-based research in which teachers explore their own philosophical and pedagogical orientations and trace their professional growth.

Dissemination is an important feature of NRRC activities. Information on NRRC research appears in several formats. *Research Reports* communicate the results of original research or synthesize the findings of several lines of inquiry. They are written primarily for researchers studying various areas of reading and reading instruction. The *Perspective Series* presents a wide range of publications, from calls for research and commentary on research and practice to first-person accounts of experiences in schools. *Instructional Resources* include curriculum materials, instructional guides, and materials for professional growth, designed primarily for teachers.

For more information about the NRRC's research projects and other activities, or to have your name added to the mailing list, please contact:

Donna E. Alvermann, Co-Director
National Reading Research Center
318 Aderhold Hall
University of Georgia
Athens, GA 30602-7125
(706) 542-3674

John T. Guthrie, Co-Director
National Reading Research Center
3216 J. M. Patterson Building
University of Maryland
College Park, MD 20742
(301) 405-8035

NRRC Editorial Review Board

Peter Afflerbach
University of Maryland College Park

Jane Agee
University of Georgia

JoBeth Allen
University of Georgia

Janice F. Almasi
University of Buffalo–SUNY

Patty Anders
University of Arizona

Harriette Arrington
University of Kentucky

Marlia Banning
University of Utah

Jill Bartoli
Elizabethtown College

Eurydice Bauer
University of Georgia

Janet Benton
Bowling Green, Kentucky

Irene Blum
Pine Springs Elementary School
Falls Church, Virginia

David Bloome
Amherst College

John Borkowski
Notre Dame University

Fenice Boyd
University of Georgia

Karen Bromley
Binghamton University

Martha Carr
University of Georgia

Suzanne Clewell
Montgomery County Public Schools
Rockville, Maryland

Joan Coley
Western Maryland College

Michelle Commeyras
University of Georgia

Linda Cooper
Shaker Heights City Schools
Shaker Heights, Ohio

Karen Costello
Connecticut Department of Education
Hartford, Connecticut

Jim Cunningham
Gibsonville, North Carolina

Karin Dahl
Ohio State University

Marcia Delany
Wilkes County Public Schools
Washington, Georgia

Lynne Diaz-Rico
California State University-San Bernardino

Ann Egan-Robertson
Amherst College

Jim Flood
San Diego State University

Dana Fox
University of Arizona

Linda Gambrell
University of Maryland College Park

Mary Graham
McLean, Virginia

Rachel Grant
University of Maryland College Park

Barbara Guzzetti
Arizona State University

Frances Hancock
Concordia College of Saint Paul, Minnesota

Kathleen Heubach
University of Georgia

Sally Hudson-Ross
University of Georgia

Cynthia Hynd
University of Georgia

Gay Ivey
University of Georgia

David Jardine
University of Calgary

Robert Jimenez
University of Oregon

Michelle Kelly
University of Utah

James King
University of South Florida

Kate Kirby
Gwinnett County Public Schools
Lawrenceville, Georgia

Linda Labbo
University of Georgia

Michael Law
University of Georgia

Donald T. Leu
Syracuse University

Susan Lytle
University of Pennsylvania

Bert Mangino
Las Vegas, Nevada

Susan Mazzoni
Baltimore, Maryland

Ann Dacey McCann
University of Maryland College Park

Sarah McCarthey
University of Texas at Austin

Veda McClain
University of Georgia

Lisa McFalls
University of Georgia

Randy McGinnis
University of Maryland

Mike McKenna
Georgia Southern University

Barbara Michalove
Fowler Drive Elementary School
Athens, Georgia

Elizabeth B. Moje
University of Utah

Lesley Morrow
Rutgers University

Bruce Murray
University of Georgia

Susan Neuman
Temple University

John O'Flahavan
University of Maryland College Park

Marilyn Ohlhausen-McKinney
University of Nevada

Penny Oldfather
University of Georgia

Barbara M. Palmer
Mount Saint Mary's College

Stephen Phelps
Buffalo State College

Mike Pickle
Georgia Southern University

Amber T. Prince
Berry College

Gaoyin Qian
Lehman College-CUNY

Tom Reeves
University of Georgia

Lenore Ringler
New York University

Mary Roe
University of Delaware

Nadeen T. Ruiz
California State University-
Sacramento

Olivia Saracho
University of Maryland College Park

Paula Schwanenflugel
University of Georgia

Robert Serpell
University of Maryland Baltimore
County

Betty Shockley
Fowler Drive Elementary School
Athens, Georgia

Wayne H. Slater
University of Maryland College Park

Margaret Smith
Las Vegas, Nevada

Susan Sonnenschein
University of Maryland Baltimore
County

Bernard Spodek
University of Illinois

Bettie St. Pierre
University of Georgia

Steve Stahl
University of Georgia

Roger Stewart
University of Wyoming

Anne P. Sweet
Office of Educational Research
and Improvement

Louise Tomlinson
University of Georgia

Bruce VanSledright
University of Maryland College Park

Barbara Walker
Eastern Montana University-Billings

Louise Waynant
Prince George's County Schools
Upper Marlboro, Maryland

Dera Weaver
Athens Academy
Athens, Georgia

Jane West
Agnes Scott College

Renee Weisburg
Elkins Park, Pennsylvania

Allen Wigfield
University of Maryland College Park

Shelley Wong
University of Maryland College Park

Josephine Peyton Young
University of Georgia

Hallie Yupp
California State University

About the Authors

Susan Sonnenschein is an Associate Professor in the Applied Development Psychology Program at the University of Maryland Baltimore County. She has conducted research in children's language development. She also has explored how parental beliefs and practices affect children's cognitive development. She is currently one of the principal investigators, along with Linda Baker and Robert Serpell, in the Early Childhood Project, a longitudinal project investigating the development of literacy for children from different sociocultural backgrounds. Dr. Sonnenschein and her co-authors may be contacted at the Department of Psychology, University of Maryland Baltimore County, 5401 Wilkens Avenue, Baltimore, MD 21228-5398.

Linda Baker is a Professor of Psychology at the University of Maryland Baltimore County and a principal investigator at the National Reading Research Center. She received her Ph.D. from Rutgers University. Her current research focuses on the social and cultural contexts of children's early literacy development. She is also interested in the development of metacognition and comprehension monitoring.

Robert Serpell is Director of the doctoral program in Applied Developmental Psychology at the University of Maryland Baltimore County. Born and raised in England, he received his Ph.D. in Experimental Psychology from the University of Sussex. Dr. Serpell worked at the University of Zambia from 1965 to 1989, and is a naturalized citizen of Zambia. His research has focused on socio-cultural factors in cognitive development and childhood disabilities. His publications include *Culture's influence on behaviour* (London: Methuen, 1976) and *The significance of schooling* (Cambridge University Press, 1993).

Deborah Scher is a graduate student in the Applied Developmental Psychology doctoral program at the University of Maryland Baltimore County. She is interested in children's emergent literacy. Currently she is investigating first graders' motivations and attitudes toward reading.

Sylvia Fernandez-Fein is a graduate student in the Applied Developmental Psychology doctoral program at the University of Maryland Baltimore County. She is interested in educational issues, particularly reading and motivation. She is currently investigating achievement motivation in adolescents.

Kimberly A. Munsterman is a graduate student in the Applied Developmental Psychology doctoral program at the University of Maryland Baltimore County. She is currently doing research with the Early Childhood Project, examining the home and school contexts of children's early literacy development. Her master's thesis concerns the contributions of home storybook reading to children's early reading skills and motivation.

National Reading Research Center
Universities of Georgia and Maryland
Reading Research Report No. 48
Winter 1996

Stands of Emergent Literacy and their Antecedents in the Home: Urban Preschoolers' Early Literacy Development

Susan Sonnenschein
Linda Baker
Robert Serpell
Deborah Scher
Sylvia Fernandez-Fein
Kimberly A. Munsterman
Department of Psychology
University of Maryland Baltimore County

Abstract. *This report considers preschool children's early literacy-related competencies. The data are from the first 2 years of the Early Childhood Project, a longitudinal investigation following preschool children from different sociocultural groups in Baltimore through their transition into the early years of elementary school. A general hypothesis guiding our research is that children from different sociocultural groups may have different home experiences because of characteristics of their niche (such as, parental beliefs about child development, available material resources, and general activity patterns of the family) that can lead to differences in subsequent reading development.*

Children in our project were tested on 14 early literacy-related competencies during the spring of both their pre-kindergarten and kindergarten years. The tasks measured aspects of an Orientation Towards Print, Phonological Awareness, or Narrative Competence. Some of the tasks used were fairly standard reading readiness measures, such as letter naming. Other tasks were more directly tailored to the individual child's home-based experiences, such as identifying printed materials commonly used at home.

In this report, we considered the nature of the preschool children's early literacy-related competencies. More specifically, we considered children's skills in pre-kindergarten and changes between pre-kindergarten and kindergarten. A second series of analyses considered the relation between home practices/experiences and emergent literacy development. We tested whether a child being brought up in a home predominantly oriented toward the view that literacy is a source of entertainment is more or less likely to develop an Orientation Towards Print, Phonological Awareness, or Narrative Competence than a child being brought up in a home where literacy is more typically viewed as a set of skills to be acquired. These two different approaches to

literacy were derived from parents' answers to questions about how to help foster reading as well as our review of the children's home activities reported by the parents. Taking an approach that literacy is a source of entertainment was positively related to an orientation toward print as well as aspects of narrative competence and phonological awareness. In general, taking the approach that literacy is a set of skills to be learned was either negatively related or not significantly related to the three strands.

This report describes findings from the first 2 years of an ongoing, longitudinal study of preschool children's emerging literacy competencies. The data represent one aspect of the Early Childhood Project, an exploration of the contexts in which children from various sociocultural groups growing up in Baltimore experience literacy as they make the transition from pre-kindergarten through the early years of elementary schooling. Our central concern in this project is how the complex overlapping contexts of home and school interact to facilitate or impede reading development. The focal children in the project live in Baltimore neighborhoods with four contrasting types of demographic profiles: (1) low income, predominantly African-American families; (2) low income, predominantly European-American families; (3) a mix of African-American and European-American, low-income families; and (4) a mix of African-American and European-American, middle-income families.

We are conducting a 5-year, longitudinal study of this sample using a combination of qualitative and quantitative measures. Our research design includes an *ecological inventory* of socialization resources and activities, based on observations, diaries, and interviews in both the home and the school; an account of *socialization ethnotheories*, based on structured interviews about the beliefs, values, and practices of the parents and teachers responsible for structuring those environments; an account of *co-constructive processes* through which children appropriate the cultural resources of literacy, based on observations and video-recordings of the child's interaction with siblings and adult caregivers at home and with peers and teachers at school; and periodic assessment of individual children's *emerging literacy competencies*, based on structured elicitation of behaviors representative of theoretically important cognitive functions, with some tasks individually tailored to the child's own home-based experiences.

This report focuses on the children's emerging literacy competencies and changes in the nature of those competencies between pre-kindergarten and kindergarten. Data are presented from year one of the project when the children were in pre-kindergarten and from year two when they were in kindergarten. There is a growing body of research indicating that all young children growing up in an industrialized society like the United States experience many, varied forms of literacy-related activities (Morrow, 1983; Sonnenschein, Brody, & Munsterman, 1995, Sulzby & Teale, 1991). Nevertheless, children from different sociocultural groups may have different literacy-related experiences (Baker, Sonnenschein, Serpell, Fernandez-Fein, & Scher, 1994; Heath, 1983; Sonnenschein et al., 1995; Teale, 1986). Systematic differences in experiences may result in systematic differences in children's literacy knowledge as they enter school.

In this project, we are particularly interested in documenting the developmental pathways for different groups of children. We hope thus to contribute to an understanding of the interface between children's emerging literacy skills and their school experiences. During the first 2 years of our project, we collected measures documenting pre-kindergarten and kindergarten children's knowledge of and about literacy. Although we obviously expect and are interested in developmental improvement over the years, we wish to avoid the orientation, initially criticized by Goodman (1979), that characterizes young children as knowing nothing about literacy. Rather than limiting our focus to the deficiencies exhibited by young children, our preference is to consider skills the children do have and how these skills develop.

The research questions addressed here stem from our general hypothesis that the particular activities preschool-age children engage in at home are linked both (backward) to culturally organized characteristics of the niche (ethnotheories of caregiving and material resources designed to enable literate practices [such as having books, newspapers, drawing materials], and recurrent family activity patterns [taking the child to the supermarket or library]) and (forward) to the rate and/or sequence in which various component competencies relevant to literacy emerge in the course of child development. Our previous research report (Baker et al., 1994) focused on the recurrent family activity patterns experienced by the children in our study, revealing some sociocultural differences. In this report, we consider the nature of the children's emerging literacy-related competencies over a 1-year period. Which skills do the children already display in pre-kindergarten, which do they develop over the next year, and what does the nature of their errors tell us about the children's construction of literacy? We focus on three broad domains of experience relevant for the development of reading abilities: phonological awareness, narrative competence, and an orientation toward print. We then consider how development of these early literacy competencies relate to certain home-based practices and parental beliefs about how literacy is acquired.

Theoretical Framework

The theoretical framework that underlies our conceptualizations is presented in detail in a previous report (Baker et al., 1994). It can be summarized as follows:

1. Human development occurs in a context of overlapping and interdependent systems of social and cultural organization (Bronfenbrenner, 1979).

2. Each child develops within an eco-cultural niche structured by physical and social settings, customs of child rearing, and implicit theories of caregivers (Gallimore & Goldenberg, 1993; Goodnow & Collins, 1990; Serpell, 1993a, 1993b; Super & Harkness, 1986).

3. Most everyday cognitive activities are socially situated and socially distributed (Collins, Brown, & Newman, 1989; Wertsch, Tulviste, & Hagstrom, 1993).

4. Cognitive development occurs through a form of socio-historically embedded apprenticeship (Rogoff, 1990; Vygotsky, 1978).

5. When children are raised in a literate society, they are exposed from infancy onward to cultural practices that provide opportunities for learning about reading and writing (Baker et al., 1994; Baker, Serpell, & Sonnenschein, 1995; Morrow, 1989; Sonnenschein et al., 1995; Sulzby & Teale, 1991; Taylor, 1983; Taylor & Dorsey-Gaines, 1988).

The broad hypotheses guiding the project are as follows: (a) distinctive patterns of socialization practices can be identified in the home environments of children being raised as members of different sociocultural groups; (b) those distinctive patterns reflect different implicit theories of child development and parental responsibility among the children's primary caregivers; and (c) a major source of variation in the patterns of school performance by children of different sociocultural groups is the variable degree to which the socialization practices and associated parental beliefs of their home environment match the developmental pathway defined by the curriculum of their elementary schools.

As we have discussed in other writings (Baker et al., 1994), we view the context of human development as a complex of incompletely overlapping, partly independent systems of social and cultural organization (Bronfenbrenner, 1979). Within this complex, the development of each child is viewed as embedded within an ecocultural niche, characterized by a particular constellation of material resources, recurrent activities, and modes of co-constructive participation in these activities, informed by the implicit theories of child development and socialization held by their principal caregivers (Super & Harkness, 1986). These caregiver "ethnotheories" are an important resource for intersubjective understanding among the parents, other caregivers and children in a given subcultural group, as they provide the framework within which the responsibility and effectiveness of individual acts are evaluated in the course of everyday life. Literacy is viewed in our analysis as a cultural practice that specifies and regulates particular recurrent forms of activity, participation in which requires particular information processing skills, contextual knowledge, and strategies for matching the skills deployed to the context (Scribner & Cole, 1981).

Our theoretical framework thus draws upon the work and methodologies of various disciplines, and our approach to data analysis uses both qualitative and quantitative techniques. We are interested in sociocultural commonalities and differences among groups of children, and our design in the Early Childhood Project allows us to test such issues. However, in this report we focus primarily on changes with age. The analyses addressing sociocultural differences are limited to differences as a function of family income.

Children's Early Literacy Competencies

In this section, we discuss in more detail the two general research issues addressed in this report.

Developmental Competencies and Changes During Preschool

Psychologists, influenced in part by cross-cultural studies of human development, have acknowledged the importance of studying behavior within different contexts because the skills a child displays in one situation may differ from those displayed in another (Rogoff & Morelli, 1989; Serpell, 1976, 1979). That is, although a child might not demonstrate certain skills when he or she is observed in the laboratory, he or she may demonstrate them when observed within the familiar structure of the home. These findings have influenced the study of early reading, where there has been a change in emphasis from reading readiness to an emphasis on children's appropriation of literacy (Sulzby & Teale, 1991). This changing conceptualization is indicated by the coining of the term emergent literacy, reflecting the notion that children begin to appropriate a broad base of literate knowledge even before formal schooling begins. "An emergent literacy perspective ascribes legitimacy to the earliest literacy concepts and behaviors of children and to the varieties of social contexts in which children are becoming literate" (Sulzby & Teale, 1991, p. 728).

Our own view of the appropriation of literacy represents an attempt to understand the child's emerging skills as he or she observes and interacts with more knowledgeable others both at home and at school. Wells (1986) identified a number of ways in which children's home experiences in the preschool years foster language and later literacy skills. In discussing how children learn language, he emphasized that the talk that young children engage in is not an end in itself but is goal-directed to achieve other purposes (e.g., communicating needs and desires). Similarly, we believe that much of the preschool child's learning about literacy at home may come about as the child engages in literate activities for purposes other than explicit learning (e.g., looking at two boxes of cereal and deciding which to take).

The concept of guided participation may provide an explanation for the processes through which literacy is fostered at home. As Rogoff (1990) discusses, a child and a more competent adult or sibling engage in a collaborative process whereby the more competent person provides a supportive structure and facilitates the child's appropriation of new skills.

From our reading, the literature suggests the existence of three strands of competence relevant for early literacy development: Phonological Awareness, Narrative Competence, and Orientation Toward Print. We have used these three strands to organize our presentation of data.

Phonological Awareness. There is a large body of literature documenting a relation between phonological awareness as measured by tests of rhyme and alliteration and of reading development (Bryant, Bradley, MacLean, & Crossland, 1989; Hansen & Bowey, 1994). The more sensitive a child is to the component sounds in words, the more likely he or she is to read well. Rhyme and alliteration knowledge contribute to reading both by increasing sensitivity to phonemic differences and by preparing the child to recognize the similar spelling patterns shared by words that rhyme (Bryant,

MacLean, Bradley & Crossland, 1990; Goswami & Bryant, 1990). One hypothesis about the origins of phonological awareness is that children learn to analyze the component sounds in words with the help of linguistic routines such as nursery rhymes (MacLean, Bryant, & Bradley, 1987; Bryant et al., 1989). For example, Bryant et al. (1989) found for a sample of middle- and working-class English children that there is a strong relation between knowledge of nursery rhymes at age 3 and success in reading over the next 3 years, a relation that appears to be mediated by the higher levels of phonemic awareness that are fostered by rhymes (Fernandez-Fein, 1995). The significant relation between knowledge of nursery rhymes and phonemic awareness several months later was maintained even when children's intelligence and parents' educational level were statistically controlled (MacLean et al., 1987). Hatano (1986), working with Japanese children, found a similar relation between a common children's play activity involving saying a word beginning with the last syllable of the word another child said and the rate of acquisition of kana literacy.

Narrative Competence. Many researchers posit that there are significant similarities between forms of oral and written language and argue that instead of focusing on the modality (oral or written) of the language, one should consider its communicative function (McCabe & Peterson, 1991). Such an approach emphasizes the importance that children's language competence has for later literacy development. Aspects of language that are considered important are those that lead the child to go beyond the immediate context and engage in extended discourse, such as narratives.

Narrative competence is considered by many to be relevant for literacy acquisition (e.g., Dickinson, 1991; Snow, 1991). Exposure to narratives begins early as children begin listening to others relate their experiences and in turn produce their own narratives almost as soon as they can talk. However, there may be differences in the structure of narratives as a function of one's sociocultural background (Heath, 1983; McCabe & Peterson, 1991). Such differences could have implications for how well different groups of children fare in school if there is a mismatch between their home and school narrative styles.

Narratives appear to play an important role in children's early schooling because the type of structure inherent in the narratives of our mainstream society (e.g., White middle-income) appears in the books most commonly read to preschool and elementary-aged children. Furthermore, being read storybooks (a major source of exposure to written narratives) is an important predictor of literacy acquisition (Sulzby, 1985; Wells, 1986). For example, Wells (1986) compared how four fairly typical home-based activities during the preschool years (looking at and talking about a picture book; coloring; writing; and listening to a story) predicted children's knowledge about literacy at age 5 years, and their later reading achievement at 10 years. He found that listening to stories was the most important predictor of literacy knowledge at ages 5 and 10.

Orientation Toward Print. Researchers have documented the relation between children's knowledge of print and later reading skills. For example, Wells (1985) administered Clay's (1979) Concepts about Print task and a

test requiring identification of letters to a sample of middle-income children entering kindergarten. Scores on these two tests were combined to yield a composite "knowledge of literacy" measure that significantly predicted children's reading scores 2 years later. The work of Lomax and McGee (1987) and Mason (1980) also suggests that an orientation toward print may serve as a foundation for later literacy development. Lomax and McGee proposed that early reading skills are clustered into five components: (1) *concepts about print*, reflecting the notion that children are aware that print and reading are meaningful and that print represents objects or speech; (2) *graphic awareness*, reflecting children's attention to the graphic details of printed letters or words; (3) *phonemic awareness*, reflecting children's awareness that spoken words can be analyzed into their component sounds; (4) *grapheme-phoneme correspondence knowledge*, reflecting children's knowledge of letters and their associated sounds; and (5) *word reading*, reflecting children's ability to read isolated words. Lomax and McGee studied children between 3 and 6 years old and found that concepts about print and, to a degree, graphic awareness were among children's earliest developing skills, with the other skills developing later. However, children did not need mastery of one component before moving to another component. Even the oldest children improved their knowledge of what might be considered to be the most basic component (concepts about print). Mason (1980) studied the development of several early literacy skills over the course of a school year with a group of 4-year-olds. Based on her results, she postulated that learning to read words follows a three-level hierarchy: first one learns to read signs and labels, then one learns letter names, and then one associates letters with sounds (see also Hiebert, 1981; Hiebert, Cioffi, & Antonak, 1984).

Niche-Competency Relations

We believe that parents' beliefs about how children learn and develop influence what experiences they make available, which in turn should influence their children's development. Such a view is based on Super and Harkness' (1986) notion of the developmental niche. That is, a child's development is influenced by his or her family's ethnotheories about development, the social milieu, and the experiences available to the child. Our method during the coming years will enable us to explore more fully the relations between beliefs and behaviors and children's literacy development. In this report, we begin such investigation by considering the nature of certain experiences children have as well as specific parental beliefs. In a subsequent report (Serpell et al., 1995), we discuss in more detail parental goals and beliefs.

When the children in the project were in pre-kindergarten their primary caregivers were asked to keep a diary for a 1-week period of their children's activities and experiences (Baker et al., 1994). Although caregivers knew that we were interested in their children's development, we made no mention that we were particularly interested in the development of literacy. The print-related experiences reported in the diaries were reviewed and reliably coded as falling into one of three

categories reflecting different approaches to literacy appropriation: literacy is a source of entertainment, literacy consists of a set of skills that should be deliberately cultivated, and literacy is an intrinsic ingredient of everyday life.

There appeared to be some sociocultural differences in how the families prepared their children for literacy. Based on the nature of print-related activity reported in the diaries, middle-income families tended to show greater endorsement of the theme that literacy is a source of entertainment than did lower income families. Low-income families, on the other hand, tended to be more likely to view literacy as a skill to be deliberately cultivated (e.g., the child practiced reading flashcards or completing workbooks). These sociocultural differences in beliefs about engaging in literacy and how literacy is best acquired appear to be consistent with Delpit (1986), who reported that low-income African-American parents reacted more favorably to a classroom that emphasized a skills approach for fostering literacy (instead of a whole language approach), and with Goldenberg, Reese, and Gallimore (1992), who found that low-income Latino parents adopted a skill-based approach when reading stories with their young children that were sent home by the child's teacher. In our analyses, the contrast between two socioeconomic strata yielded significant differences, while no significant difference was found between African-American and European-American families within the lower SES sample.

In this report, we pursued further the themes of literacy as a source of entertainment and literacy as a set of skills to be cultivated. We considered whether the child's niche is more likely to foster the view that literacy is a set of skills to be acquired or literacy is a source of entertainment. Of interest was whether these two approaches to literacy would differentially affect the child's emerging competence.

Method

Participants

The recruitment strategy for the Early Childhood Project has been extensively described by Baker et al. (1994). Briefly, participants in this longitudinal project were drawn from residential neighborhoods served by six public elementary schools in Baltimore City. These neighborhoods were as follows.

1. *Low income African American*: student population at the two participating schools over the past 3 years was 86% or more African American, and 86% or more qualifying for free lunch. Ten children participated during pre-kindergarten and 8 during kindergarten.

2. *Low income European American*: student population at the two participating schools over the past 3 years was 75% or more European American and 75% or more qualifying for free lunch. Eleven children participated during pre-kindergarten and 10 during kindergarten.

3. *Low income, mixed ethnicity*: student population at the one participating school over

the past 3 years ranged between 33% and 66% African American with the remainder European American, and 75% or more qualifying for free lunch. Eight children participated during pre-kindergarten and 7 during kindergarten.

4. *Middle income, mixed ethnicity*: student population at the one participating school over the past 3 years ranged between 33% and 66% African American with the remainder European American, and 60% or more paying for lunch. Ten children participated during pre-kindergarten and 9 during kindergarten. We had intended for there to be more children in our middle-income group, but only one school that met our demographic criteria had a pre-kindergarten program.

We had several selection criteria for eligibility to the project. The only one pertinent here is that no children who had identifiable developmental disabilities were recruited.

Once families were recruited into the project, they completed a diary about their child's activities. The caregivers also responded to several structured interviews about the nature of their children's recurrent activities and about their beliefs concerning how children learn and develop.

In Year 1 when the children were in pre-kindergarten, 39 children (mean age of 4.86 years, standard deviation of 3.16 months) participated in the competency testing. During the second year of the project when the children were in kindergarten, 34 children (mean age of 5.84 years, standard deviation of 3.32 months) received the test battery. Two of the children participating during Year 2 had not yet joined the project in Year 1, so competency data are available for them only for Year 2. Several children moved out of the area between the Year 1 and Year 2 testing; thus, Year 2 data are not available for them.

Procedure

During Year 1, each child was tested in the spring of pre-kindergarten in the school. Children were tested individually in two sessions by a graduate student member of our research team who was of the same ethnicity as the child. The assignment of testers to children was arranged such that the research assistant was not otherwise involved in working with the child's family. Testing sessions were approximately 1 week apart. Each child received the tasks in the same predetermined order.

Our plan during Year 2 was to follow a similar testing pattern. Most of the children were tested by the same research assistant as in Year 1, but 8 were tested by a different assistant, who was of the same ethnicity as the child. Five of the children were tested in the summer after the completion of the school year because they were absent or unavailable during the scheduled testing days. Summer testing was conducted at the children's school or the local public library.

Phonemic Awareness

Five different tasks were used to assess phonemic awareness: rhyme detection and production, alliteration detection and produc-

tion, and nursery rhyme knowledge. These rhyme and alliteration tasks, adapted from MacLean et al. (1987), were selected as measures of phonemic awareness on which even preschool-aged children demonstrate some competence. All of the words used on the four rhyme and alliteration tasks were common one-syllable words familiar to preschoolers.

Rhyme detection. The detection tasks involved a forced choice procedure. Children had to choose which of two one-syllable words rhymed with a target word. For example, the child was asked, "Does *cat* rhyme with *hat* or does *cat* rhyme with *bell*?" At the outset of the task, the child was told how to do the task through example and explanation. Then the child was given two practice trials with feedback. The order of the paired contrasts on this task was varied so that sometimes the correct choice was the first and sometimes the second word. There were 10 test trials during which the child received no feedback about performance.

Rhyme production. The production tasks required that the child produce a word which rhymed with another one-syllable word. The child was told, "I'll say a word and you tell me a word that rhymes with or sounds like the same word as the word I say." For example, the child was told, "If I say *bell*, you would say. . . ." The child was given an example and two practice trials, followed by 8 test trials.

Alliteration detection. Children had to choose which of two words started with the same sound as a target word. The child was told, "I'm going to ask you to tell me which words start with the same sound." For example, "Does *pin* start with the same sound as *pig* or does *pin* start with the same sound as *tree*?" Following the example and two practice trials, the child was given 10 test trials.

Alliteration production. Children had to produce a word that began with the same initial sound as the target word. The child was told, "If I say *run*, you would say. . . ." After the example, the child received two practice trials followed by 8 test trials.

Nursery rhyme knowledge. This task, adapted from Maclean et al. (1987), assessed children's knowledge of five common nursery rhymes. Children were asked to recite *Twinkle, Twinkle Little Star*; *Humpty Dumpty Sat on a Wall*; *Jack and Jill*; *Baa Baa Black Sheep*; and *Hickory Dickory Dock*. These rhymes were selected by Maclean et al. as familiar to children in England. We pilot tested them with children of similar sociocultural profiles to those in the current sample and found they also were appropriate for use in this region of the United States.

The child was given the name of each nursery rhyme and asked to recite it or to say as much of it as he or she could. If the child had difficulty, the research assistant prompted with the first few words of each line as needed, but the rhyming word was never prompted.

Narrative Competence

Three different tasks were used to assess children's narrative competence: storybook reading, a narrative production task, and a language comprehension task.

Storybook reading. This task was adapted from a task used by Sulzby (1985) and provided information about the child's knowledge

about reading. Children were asked to read or tell about a familiar book. Our original plan was for the child's teacher to select a familiar book—one that had been read in class. In most cases, this is how selection occurred. In some cases (around 10%), the child chose his or her own book from among a set of books used in class. Books chosen generally were between 20 and 30 pages and had a simple storyline.

The book selected for reading was presented to the child with the following instructions: "Your teacher showed me this book that you have heard her read. I've never read this one and I would love to hear this story. Will you read or tell me about it?" If the child protested that she/he could not read, the research assistant said, "Well, let's go through the book together and you show me the pictures."

Narrative production. Children were asked to produce narratives about what had ostensibly been memorable events for them. Prior to working with the children, we asked the parents to tell us about some recent event that their child had experienced that had been memorable for the child. During the course of the first testing session, in between more formal tasks, the research assistant prompted the child to discuss the events mentioned by his or her parent. For example, in one case the research assistant said, "When I was talking to your mom about how you were going to come play games with me, she told me about the time that you had the chicken pox. I once had the chicken pox. Can you tell me about having chicken pox?" On each occasion, the research assistant attempted to elicit as detailed a narrative as possible by expressing interest and probing with nonleading questions.

Language comprehension. The purpose of this task was to assess how well the children understood a particular story. The task was not administered in Year 1 because the testing session was lengthy and we were concerned about children's fatigue. When we dropped an unsuccessful task used in Year 1, we decided to add the story comprehension measure in Year 2.

Immediately following the completion of the Concepts about Print task in Year 2, the child was told, "Let's read the book *Where's that Bus?* together now" (Browne, 1991). The book was selected because it seemed to the principal investigators to be an age-appropriate and interesting story. It was read in as natural a manner as possible. The book presented a story about a rabbit and a mole who were waiting for a bus to take them to their friend Squirrel's house for lunch. Rabbit and Mole became bored while waiting for the bus and went off several times to pick some flowers, eat strawberries, and take a nap. Each time they missed the bus. Eventually, Squirrel came to them with a picnic lunch (on a bus travelling in the opposite direction). At the end of the story, Rabbit complained that "not one bus came our way the entire day." Comprehension of the story required both hearing the text and looking at the pictures because the busses that Rabbit and Mole missed were visually shown but never explicitly mentioned. Three times, as the book was read aloud, the child was asked to attempt to read a page. Efforts were complimented and the research assistant reread the page. Spontaneous comments by the children about the book were responded to appropriately. If the child failed to comment on the

awaited bus, it was pointed out to the child, "Look, what is that?" After completing the book the child was asked several questions: (1) Did Rabbit and Mole ever catch the bus?; (2) Did any bus come their way? (The child was given feedback as necessary on both questions); (3) Why did Rabbit and Mole miss the bus?; (4) Do you remember that Squirrel came on a bus? (The child was shown the page, if necessary); (5) Why didn't Rabbit and Mole take that bus?

Orientation Toward Print

Six different tasks were used to assess orientation toward print: knowledge of functions of print materials, word recognition in environmental context, concepts of print, uppercase and lowercase letter knowledge, and number knowledge. The latter task was not included, however, in the Orientation Toward Print composite.

Knowledge of functions of print materials (functional print). This task, adapted from Lomax and McGee (1987), assessed children's knowledge of the functions and uses of various kinds of printed materials. The 9 items included in this task were a newspaper, a television guide, a telephone book, a coupon for the rebate on the purchase price of the cereal Cheerios, a calendar, a children's storybook, a handwritten grocery list, a business letter in an envelope, and a road map. The child was shown each item one at a time and asked what it was. If the child did not know the name of the item, the name was provided. The child was then asked how people use the item. We determined in a subsequent set of interviews with each caregiver whether items similar to those used in the task were present in the child's home and whether the child saw those items being used or used them himself/herself.

Word recognition in environmental context (environmental print). This task was inspired by Harste, Burke, and Woodward (1982), and it also drew upon the experimental research on discrimination learning by Zeaman and House (1963) and Serpell (1973). The task provided information about the clues that children use to derive meaning from print and how these clues change with development. In order to make the task more similar to an authentic everyday activity, we placed the task of recognizing objects within the context of unpacking grocery items. The task consisted of four phases. Phase 1 required the child to perform a discrimination among items that differed on multiple perceptual dimensions: size, shape, color, surface, texture, and so on. In Phase 2, the characteristic logo which incorporated the product name was cut from the commercial packaging and mounted on a white index card. The items in Phase 2 were less multidimensionally contrastive than those in Phase 1, but were still discriminable on the basis of features of color, shape, and script. In Phase 3, only the names of the products were used and they were all printed with the same font on white index cards. In this phase, discrimination required recognizing the words at least logographically if not alphabetically or orthographically.

More specifically, each child was asked to identify a product that he or she uses at home by the actual container (box, can, bottle, etc.) with which it is marketed, by its logo (presented on a card), or by its printed name (also presented on a card).

The items selected for inclusion were individually tailored to each child's home experiences. Caregivers were presented ahead of time with a list of common cereals, soft drinks, toothpastes, cookies, and canned goods, such as soups and pastas, which pilot testing had revealed were commonly used by children in neighborhoods similar to those in this study. They were asked to indicate which items they used at home on a regular basis and their child thus would be likely to recognize. Four of the familiar items, each from a different category, were selected as target items for the focal child and four nonfamiliar items (matched in category to the target items) were used as distractors.

During Phase 1 (using actual products or objects), both the child and the research assistant had a bag of grocery items, each with different contents. The research assistant gave the child one bag, kept one for herself and suggested that they open their bags in much the same way that families unpack their groceries upon returning from the store. While opening her bag, the research assistant speculated, "I wonder what I've got in mine." She then extracted one item at a time exclaiming, "Oh look! I've got X in mine," and encouraged the child to do likewise. (A demonstration of this task, which was inspired by naturalistic observations made by Marta Caballeros, a member of the research team in 1992, has been recorded on videotape and is titled *Environmental Print: A competency measure of emergent literacy designed for use by the Early Childhood Project*. This video will be available from the National Reading Research Center.) Both the child and the research assistant took turns naming the items in their respective bags (*Naming of Product*). The research assistant then took all the items from both bags and randomly placed them upon a table. The child was told to show a designated product to a stuffed animal (*Identification of Product*). After the child showed the stuffed animal an item, it was placed back upon the table with the other items.

Phase 2 required that the child identify the items solely by their logos which were pasted on index cards. There was both a naming and an identification component in Phase 2.

The stimuli used in Phase 3 (both naming and identification) were printed cards. The child was shown each printed card and asked to name or read the word on the card. Then the cards were placed on the table and the child was asked to show the cards, one at a time, to a stuffed animal. The research assistant directed the child to show the stuffed animal each particular card by saying, "Show (animal) the card that says 'Cheerios'."

In Phase 4, the child was shown the logo and asked to match the printed card to it.

Concepts about print. This task was adapted from Clay (1979) and explored the child's emerging concepts about print in a more structured way than the open-ended storybook reading task. The child was shown a storybook, *Where's that Bus?* (Browne, 1991), and asked 12 questions tapping knowledge about: particular letter names (2 letters), word boundaries, punctuation, where on the page the story is contained (e.g., print vs. pictures), and directionality of reading (left to right, top to bottom).

Letter knowledge. Children were asked to identify all the letters of the alphabet, first in

uppercase and then in lowercase letters. These letters were presented one at a time on note cards.

Before the *uppercase letters* task was administered, the letters comprising the child's name were removed from a randomly-ordered deck of note cards. The child was shown the initial letter of his or her first name and asked to identify it. Then the remaining letters of the child's name were shown in a scrambled order for identification. Subsequently, the child was shown the rest of the letter cards and asked to identify each letter. This order (except for the letters of a particular child's name) was the same for all children. If the child made five consecutive errors, the remaining cards were spread in front of the child and he or she was asked to identify any additional letters.

The same procedure to that described above was followed for the *lowercase letters* task, with the exception that the child was not asked to identify the letters of his or her name first. A different random order of letters was used.

Number knowledge. Children were asked to name the visually displayed digits from 1 to 10. These were printed on single note cards presented individually one at a time. The order of presentation was a predetermined random order that was the same for all the children. As with the procedure followed for letter identification, if the child made five consecutive errors, the remaining cards were spread out and the child was asked to identify any additional numbers.

Order of Tasks: Year 1

Day 1. The order of tasks during Day 1 was as follows: Word Recognition in Environmental Context, UpperCase Letters, Rhyme Detection, Storybook Reading, Rhyme Production. Six narrative prompts were interspersed throughout the testing during Day 1. It took approximately 20–25 min to complete these tasks.

Day 2. The order of tasks during Day 2 was as follows: Knowledge of Functions of Print Materials, Lowercase letters, Numbers, Alliteration Detection, Nursery Rhyme Knowledge, Alliteration Production, Concepts about Print, Language Comprehension. It took approximately 25–30 min to complete these tasks.

Order of Tasks: Year 2

The measures used during Year 2 and the ordering of these measures was the same as in Year 1, with the exception that a Language Comprehension measure was added as the final task on Day 2. Day 1 testing lasted approximately 20 min. Day 2 testing lasted approximately 30–35 min.

Coding of Tasks

Procedures for coding the tasks are described below. Additional description, if desired, is available from the authors. Each task was scored by one of the authors (SF-F, KM, DS). For each task where there was any subjectivity to the scoring, reliability was computed by having two coders independently score 20% of the randomly selected children's responses and then compare their scoring. Disagreements were resolved by discussion among the coders and one of the principal investigators (SS). No reliabilities were computed for

the letter and number knowledge tasks, the rhyme production and detection tasks, the alliteration production and detection tasks, concepts about print task, and narrative production task because the scoring was objective.

Rhyme and alliteration detection and production. The number of items, out of 10, that each child answered correctly on the rhyme and alliteration detection tasks comprised the child's score on each of these two tasks. The rhyme and alliteration production tasks, similarly, were scored by counting the number of correct responses, in this case, out of 8. Nonsense words that rhymed with the target word, in the case of the rhyme task, and that started with the same sound as the target word, in the case of the alliteration task, were scored as correct.

Nursery rhyme knowledge. The coding for this task was based on the work of MacLean et al. (1987), but a 4-point scale was used rather than the 3-point scale used in the prior study in order to allow greater differentiation among responses (Fernandez-Fein, 1995). Children's performance on each of the five nursery rhymes was scored as follows: 0—no knowledge of the rhyme; 1—a little knowledge; 2—more knowledge, including some of the key rhyming words; and 3—knowledge of most or all of the rhyme. The scores were summed and divided by five to arrive at each child's nursery rhyme knowledge score. The possible score range for this measure was between 0 and 3. Interrater reliability was 95% for the Year 1 data and 92.5% for the Year 2 data.

Storybook reading. The children's reading of the storybook was characterized by rating the child on four dimensions:

1. *Willingness to read story*. Responses were coded as either "responds immediately," "hesitant but reads when encouraged" which included any child who responded "I can't read" or otherwise seemed reticent, and lastly "child refuses to read or tell story" which was used only in the rare instance when the child outright refused to engage in the task.

2. *Orientation of the book held by the child*. Responses were coded as to whether the child did or did not correctly orient the book.

3. *Turning of book's pages*. Of interest was the child's pattern of turning the pages and telling the story. Responses were categorized into one of three groups reflecting the appropriateness of the child's page turning and his/her storytelling behavior. "Telling the story" was defined as talking that related to the content of the book, even if that monologue did not include specifically story-like elements. Responses were coded as: tells story and turns pages appropriately, tells story but does not turn pages appropriately, or turns pages but does not tell story.

4. *"Reading" of story*. Responses were coded into one of five categories and were given between 0 and 3 points. One category consisted of responses where children actually read the words of the story (3 points). The remaining categories were for "nonreading" responses. If the child mainly described the pictures, the behavior was categorized as "child describes pictures, story not formed" (1 point). This category was used to categorize responses of children who spoke very little or children who just labeled pictures in the story. These children were distinguished from those who told a story based on the pictures (2 points).

Another coding category was for responses where the child told the story like a memorized routine, not from print or pictures; however, no child displayed this pattern of behavior. The final coding category was for cases where the child really did not offer any information throughout the interaction. Such responses were coded "child offers little or no information" (0 points).

Coded responses to this dimension served as data in the quantitative analyses for the storybook reading task. Interrater reliability across all questions on this task was 94% for Year 1 data and 90% for Year 2.

Narrative production. Coding of the children's narratives proceeded in two steps. Step one required identification of a child's longest narrative for coding. Step two focused on determining the explicitness of a child's reference within the selected narrative; that is, the degree to which the child's words or the accompanying context of an utterance rendered a reference understandable to a listener. The theoretical rationale for this coding is detailed in Hill (1994).

1. *Selection of codable narrative*. Although each child produced several narratives in response to prompts by the research assistant, only the one containing the greatest number of clauses was selected for coding. Such identification was made by Susan Hill, a member of our research team, using a procedure described in her master's thesis (Hill, 1994). Written transcriptions of each narrative were reviewed. The start of a narrative was considered to be the child's relevant production (talk about an event from the past) after a prompt by the research assistant (e.g., "I heard from your Mom that you went shopping for new shoes"). The end of a narrative was signalled by: an explicit ending by the child (e.g., "That's all"); the introduction of a new task (recall that prompts were given during conversation between other tasks); a topic change; or two direct questions, one right after the other, asked by the research assistant. False starts by the child were ignored in coding. Narratives then were segmented into clauses, defined as any grammatical unit containing a predicate, and the narrative with the greatest number of clauses was selected for coding for each child.

2. *Explicitness of reference*. All references to characters, objects, locations, and events were coded as either explicit, specified or nonspecified references. *Explicit references* were proper names and nouns. Such reference was not dependent upon the accompanying context for interpretability. *Specified references* were definite pronouns (he, she, etc.) and demonstratives (that thing, there) in which the character, location or object had been explicitly introduced earlier in the narrative by the child or by the research assistant in her prompt to the child. Thus, such references were fully interpretable in the context of the child's narrative. *Nonspecified references* were pronouns or demonstratives whose reference to a character, location or object had not been made earlier by either the child or the research assistant.

Language comprehension. Children were given credit for any words which they read in the story, "*Where's that Bus?*" However, if the child merely described the picture, and, by chance, said words that appeared in the text, the child was not given credit for having read those words. Responses to the comprehension

questions which followed the story reading were each coded as correct or incorrect. Interrater reliability for responses to the comprehension questions was 88%.

Knowledge of functions of print materials. Children's responses and the research assistants' prompts were transcribed from videotape. Identification and function responses were then scored for each child on each of the 9 items presented during testing. Identification responses were given 1 point if correct and 0 points if incorrect. For each item, the standard label (e.g., telephone book, TV guide) or a slight variation of that label was scored as correct. Identification responses were scored by two independent coders. Interrater reliability was 98% for the Year 1 data and 100% for Year 2 data. Responses about the function of the items were coded on a 3-point scale, with "0" indicating an incorrect response, "1" indicating a partially correct but incomplete response, and "2" indicating a well-specified, complete response. Interrater reliability was 88% for Year 1 data and 90.2% for Year 2 data.

Word recognition in environmental context. Children's responses were recorded at the time of testing and subsequently by trained coders viewing the videotaped sessions. Each instance of correct identification or naming was awarded 1 point. These instances were totaled for each child to yield a score up to 4 possible points in each of the areas of product name/identification, logo name/identification, print name/identification, and matching. Interrater reliability was 100% for Year 1 data and 98% for Year 2 data.

Concepts of print. Coding for the Concepts of Print task focused on whether or not the child's response was correct or incorrect. This information was recorded by the research assistant during task administration. All videotapes were watched a second time, and any coding errors were corrected.

Letter knowledge. During the testing session, research assistants recorded the uppercase letters and lowercase letters correctly identified by each child. Each child's correct responses were then totaled in each of the categories, yielding a maximum possible 26 points for each of the two letter tasks.

Number knowledge. During the testing session, research assistants recorded the numbers correctly identified by each child. Scores could range from 0 to 10.

Results

The first section considers the literacy-related competencies of the children. The second section addresses the relation between the experiences available in the children's niche and their literacy-related competencies.

Developmental Competencies and Changes during Preschool

The presentation of the data begins with empirical evidence supporting the conceptual validity of the three literacy-related strands mentioned in the introduction to this paper (Phonemic Awareness, Narrative Competence, Orientation Toward Print). The data are then considered in terms of the changing competencies of the children and the nature of children's early literacy constructions.

Table 1. Correlation of letter task with composites (letters excluded from Orientation Toward Print composite) during Pre-kindergarten (Year 1) and Kindergarten (Year 2)

Task	Phonological Awareness Year 1	Orientation Toward Print Year 1	Phonological Awareness Year 2	Orientation Toward Print Year 2	Narrative Competence Year 2
Letters Year 1	.529*	.620*	.532*	.701*	.555*
Letters Year 2	.174	.406	.289	.518*	.414

*$p < .01$.

Three strands of early literacy-related skills. We have identified three strands that we believe are relevant for early literacy development: Phonological Awareness, Narrative Competence, and Orientation Toward Print. These strands were created on theoretical grounds. However, some additional empirical support for the validity of the strands comes from considering the intercorrelations among the measures. Given the great number of correlations conducted, and therefore the increased risks of Type I errors, only correlations with $p < .01$ are considered to be significant.

Conceptually, letter knowledge could be related to either phonological awareness or orientation toward print. However, other researchers have more often considered letter knowledge to be an aspect of orientation toward print. We believe that letter recognition is highly related to both orientation toward print and phonological awareness. However, preliminary correlational analyses, which are reported in Table 1, indicated that the letter tasks were more highly correlated with the Orientation Toward Print composite than the Phonological Awareness strand, especially in Year 2. Therefore, we added the letter tasks to the Orientation Toward Print strand.

The *Phonological Awareness* strand was a composite of the percentage correct scores from the rhyme production and detection tasks, the alliteration detection task, and the nursery rhyme task. There was a floor effect on the alliteration production task; therefore, these data were not included in these analyses. As shown in Table 2, the rhyme task in Year 1 significantly correlated with the nursery rhyme task in Years 1 and 2. However, in Year 2, the rhyme tasks did not correlate with the nursery rhyme task.

The Phonological Awareness composite scores in Years 1 and 2 were significantly correlated ($r = .69, p < .01$). The correlation between the Phonological Awareness scores in Year 1 and Year 2 appeared to be stronger than the correlation between Phonological Awareness and the other strands (see Table 3). However, this composite was correlated with all the other composites.

Table 2. Correlation coefficients among tasks in Phonological Awareness composite

Task	Rhyme Year 1	Alliteration Year 1	Nursery Rhyme Year 1	Rhyme Year 2	Alliteration Year 2	Nursery Rhyme Year 2
Alliteration Year 1	.185					
Nursery Rhyme Year 1	.562*	.237				
Rhyme Year 2	.447	.087	.221			
Alliteration Year 2	.462	.126	.494*	.240		
Nursery Rhyme Year 2	.495*	.204	.682*	.238	.268	

*$p < .01$.

The *Narrative Competence* strand was a composite of the child's score on the storybook reading task (question 4 focusing on whether the child read or told the story), the scores on the language comprehension measure, and the proportion of referents that were either explicit or specified from the child's longest narrative production. Recall that the language comprehension measure was given for the first time in Year 2 and coded narratives were only available from Year 1.

There was less empirical support for the validity of this composite, as none of the individual measures correlated with each other. However, the three measures required very different skills from the child.

The correlation between the Narrative Competence composites at Year 1 and 2 was not significant (see Table 3). However, only one measure in the composite was repeated both years, with the other two measures changed.

There were four tasks which comprised the *Orientation Toward Print* strand: Concepts of Print task, Functional Print task, Environmental Print task, and Letter tasks. The composite consisted of the percentage correct on the tasks. Note that an aggregate score was computed for the two letter tasks based on the sum of correct responses on both tasks. For the environmental print task, a weighted aggregate score was calculated from the sum of points earned on the production and recognition components of the product, logo, and print tasks. The product tasks were worth 1 point each (maximum possible 8 points), the logo versions were worth 2 points each (maximum possible 16 points) and the print tasks were

Table 3. Intercorrelations among Pre-kindergarten (Year 1) and Kindergarten (Year 2) composites

Composite	Phonological Awareness Year 1	Orientation Toward Print Year 1	Narrative Competence Year 1	Phonological Awareness Year 2	Orientation Toward Print Year 2	Narrative Competence Year 2
Orientation Toward Print Year 1	.613*					
Narrative Competence Year 1	-.06	.04				
Phonological Awareness Year 2	.688*	.554*	-.01			
Orientation Toward Print Year 2	.430	.756*	.04	.461*		
Narrative Competence Year 2	.577*	.663*	.03	.541*	.664*	

*$p < .01$.

worth 3 points each (maximum possible 24 points).

There appeared to be empirical support for the validity of the Orientation Toward Print strand. Perusal of Table 4 indicates that 3 of the possible 6 correlations among tasks in Year 1 were significant at the .01 level. Similarly, 3 of the possible 6 possible correlations among tasks in Year 2 were significant.

Table 3 shows that the Orientation Toward Print scores in Year 1 and 2 were significantly correlated ($r = .76$, $p < .01$).

We hypothesized that there would be significant correlations between Year 1 and Year 2 for each strand. This was true for both the Phonological Awareness and the Orientation Toward Print strands. We also hypothesized that each strand should be more highly correlated with itself (from Year 1 to Year 2) than with the other strands. *Z* tests were conducted to test the difference in relative strength of correlations among the pairs. These tests were nonsignificant, although in the expected direction. Our quite limited sample size likely reduced the power of these analyses.

Developmental changes in children's early literacy from Year 1 to Year 2. Separate analyses of variance were run for each task and its

Table 4. Correlation coefficients among tasks in Orientation Toward Print composite

Task	Concepts of Print Year 1	Environmental Print Year 1	Function of Print Year 1	Letter Recognition Year 1	Concepts of Print Year 2	Environmental Print Year 2	Function of Print Year 2	Letter Recognition Year 2
Environmental Print Year 1	.286							
Functions of Print Year 1	.497*	.176						
Letter Recognition Year 1	.646*	.255	.416*					
Concepts of Print Year 2	.562*	.128	.452*	.649*				
Environmental Print Year 2	.507*	.235	.544*	.599*	.394			
Functions of Print Year 2	.459*	.073	.609*	.417	.528*	.526*		
Letter Recognition Year 2	.371	.254	.281	.510*	.618*	.306	.402	

*$p < .01$.

components to test whether children's abilities had improved over the course of the year. To summarize the overall findings: although children's abilities clearly improved during the year, they already had literacy-related knowledge in pre-kindergarten. All the children demonstrated competence on some of the tasks even though, not surprisingly, no child reached ceiling on all the tasks. During pre-kindergarten, 74% of the children were able to respond correctly to some questions on at least 12 of the 14 tasks. In fact, approximately 16% of the children earned some points on all 14 tasks. During kindergarten, children's abilities had

Table 5. Change in Scores on Phonological Awareness Tasks in Pre-kindergarten (Year 1) and Kindergarten (Year 2)

Task	Year 1 Mean Scores (*SD*)	Year 2 Mean Scores (*SD*)	*F*-value Sig. of *F*
Rhyme detection			
% of items correct	55.9	87.8	51.72
$N = 33$	(24.5)	(16.8)	$p < .001$
Rhyme production			
% of items correct	28.3	63.3	25.76
$N = 31$	(35.5)	(37.3)	$p < .001$
Alliteration detection			
% of items correct	46.7	67.0	23.51
$N = 31$	(17.1)	(17.6)	$p < .001$
Alliteration production			
% of items correct	8.6	12.8	0.72
$N = 30$	(17.1)	(20.5)	*ns*
Nursery rhyme			
score on 0–3 rating scale	1.43	2.14	49.59
$N = 33$	(0.76)	(0.37)	$p < .001$

improved. All children earned points on at least 13 of the tasks.

The data are organized in terms of measures tapping Phonological Awareness, Narrative Competence, and Orientation Toward Print.

1. *Phonological Awareness*. Table 5 depicts children's scores on the rhyme detection and production tasks, the alliteration detection and production tasks, and the nursery rhyme task. Table 5 also shows *F* values for the comparison of Year 1 and Year 2 scores. Children improved significantly between pre-kindergarten and kindergarten on each of the tasks except for the alliteration production task.

2. *Narrative Competence*. Table 6 shows the children's scores on the storybook reading measure, the language comprehension measure, and the narrative production measure. Children significantly improved in their approach to the task between pre-kindergarten and kindergarten. A closer look at specific behaviors indicates that, even during pre-kindergarten, most of the children knew how to hold the book, turn the pages, and even tell the

Table 6. Change in Scores on Narrative Competence Tasks from Pre-kindergarten (Year 1) to Kindergarten (Year 2)

Task	Year 1	Year 2	*F*-Value
Storybook reading, mean[1] score on 0–3 rating scale (*SD*) $N = 32$	1.50 (.68)	2.03 (.72)	11.53 $p < .002$
Narrative production, mean[2] $N = 30$	.90 (.15)	NA	NA
Language comprehension[3] $N = 33$	NA	.76 (.19)	NA

[1]See pages in the text for information about the coding of this task.
[2]Proportion explicit or specified referents
[3]Mean score on comprehension questions

Table 7. Storybook Reading Performance in Pre-kindergarten (Year 1) and Kindergarten (Year 2)

Measure		Year 1	Year 2
Willingness to read:	refuses	2.6%	2.9%
	hesitant	23.1%	29.4%
	responds immediately	74.4%	67.6%
Orientation of book:	incorrect	2.6%	5.7%
	correct	97.4%	94.3%
Turning of pages:	turns pages and tells story appropriately	74.4%	94.1%
	not doing both of above	25.6%	5.9%
Reading of story:	offers little information	12.8%	0.0%
	describes pictures (story not formed)	25.6%	24.2%
	tells story from pictures (story formed)	61.5%	45.5%
	child reads	0.0%	30.3%

story (see Table 7). It should be noted, however, that the children in different classes were reading different books which seemed to vary in difficulty level. A big change from the Year

Table 8. Mean Proportion of Correct Responses to Questions from Language Comprehension Task

Questions		Mean	*SD*
1. Did Rabbit and Mole ever catch the bus?	$N = 33$	.73	.45
2. Did any bus come their way?	$N = 33$	.91	.29
3. Why did Rabbit and Mole miss the bus?	$N = 33$	.91	.29
4. Do you remember that Squirrel came on a bus?	$N = 33$	.97	.17
5. Why didn't Rabbit and Mole take that bus?	$N = 32$	.50	.51

1 to Year 2 testing, was that approximately a third of the children were beginning to attempt to decode the printed words.

The mean proportions of correct responses to the questions asked on the Language Comprehension task are presented in Table 8. The majority of the children correctly answered most of the questions. The one notable exception was that only 50% of the children were able to correctly respond to the question "Why didn't Rabbit and Mole take that bus?" However, 37% of these wrong answers showed that the children seemed to understand the general story, but either did not necessarily understand that aspect of it or the specific question. For example, several children responded that there was "not enough room" on the bus. Other children answered that Rabbit and Mole did not take the bus because they were too busy "coming back and forth." In fact, that was the correct explanation of why they had missed earlier buses.

The vast majority of the children's references to people, objects, or locations in their narrative productions were sufficiently explicit for a listener to understand. Thus, in only 10% of the cases was the reference so vague that the listener could not understand after listening to the narrative what or who the child was referencing.

3. *Orientation Toward Print.* Table 9 indicates the children's pre-kindergarten and kindergarten scores on the number, letter, concepts of print, functions of print, and environmental print tasks. The Environmental Print task components were analyzed and reported separately, as it was of interest to know exactly what aspects of the task a child could or could not do.

Children's scores improved significantly between pre-kindergarten and kindergarten on all but two tasks: Environmental Print tasks—Identification and Naming of Printed Word. In general, the children were better at the identification than at the naming versions of

Table 9. Scores on Orientation Toward Print Tasks in Pre-kindergarten (Year 1) and Kindergarten (Year 2)

Task	Year 1 Mean Scores (*SD*)	Year 2 Mean Scores (*SD*)	*F*-value Sig. of *F*
Number Identification % correctly identified $N = 32$	49.4 (36.4)	89.7 (17.0)	47.41 $p < .001$
Uppercase Letter Identification % correctly identified $N = 33$	26.4 (34.7)	77.3 (31.9)	71.47 $p < .001$
Lowercase Letter Identification % correctly identified $N = 32$	19.5 (28.5)	70.1 (27.6)	97.86 $p < .001$
Concepts of Print % items answered correctly $N = 19$	31.9 (17.1)	61.1 (21.1)	46.28 $p < .001$
Functions of Print % items correctly identified $N = 30$	44.8 (20.0)	59.0 (17.8)	41.57 $p < .001$
Environmental Print Tasks:			
% correct identification of product $N = 33$	77.3 (25.3)	87.9 (17.8)	4.52 $p = .041$
% correct naming of product $N = 33$	30.3 (23.2)	50.8 (24.6)	21.48 $p < .001$
% correct identification of logo $N = 33$	64.8 (31.0)	80.5 (27.5)	5.74 $p = .023$
% correct naming of logo $N = 34$	28.0 (26.3)	50.8 (28.3)	17.20 $p < .001$
% correct identification of printed word $N = 28$	42.6 (32.4)	39.8 (40.6)	0.08 *ns*
% correct naming of printed word $N = 34$	5.3 (10.4)	11.4 (18.8)	3.44 $p = .073$
% correct matches between logo and printed word $N = 30$	45.7 (39.6)	78.4 (32.5)	16.56 $p < .001$

Table 10. Functions of Print Task: Percentages of items correctly identified

Item	Year 1	Year 2
Child's Storybook	56.4	97.1
TV Guide	28.9	32.4
Telephone Book	34.3	55.9
Coupon	34.2	50.0
Calendar	47.5	76.5
Newspaper	79.5	79.4
Grocery List	12.8	21.2
Letter	71.8	61.8
Road Map	28.9	55.9

the Environmental Print tasks ($p < .001$). They also were relatively better with both the product and logo identification than with the print identification ($p < .001$).

As shown in Table 9, the pre-kindergarten children did best on the Environmental Print tasks where they were asked to identify products or logos from those products available in their home. In fact, the majority of children succeeded on this task, which attests to their competence in recognizing print in their environment. However, they could not yet utilize their knowledge of print to match a logo with its printed name. By kindergarten, the majority of children had become much more strategic and were able to perform this matching task. Informal observation suggested that the children attempted to analyze the logos into the relevant letters and then match logo and printed card from the letters. This increased skill is likely related to the fact that the children's ability to recognize letters also increased significantly during the year.

Pre-kindergarten children's orientation toward familiar print is evidenced by more than half of them being able to correctly identify a storybook, a newspaper, and a business letter in the Functions of Print task (see Table 10 and Table 11). However, there was variability in children's ability to label different types of print materials and to explain how these items were used.

In our original planning for this study, we were interested in learning what printed items

Table 11. Functions of Print Task: Percent of children scoring incorrect, partially correct, and correct on function responses

Item	Score	Year 1	Year 2
Child's Storybook	0	11.4	2.9
$N = 36$	1	2.9	2.9
	2	85.7	94.1
TV Guide	0	44.4	32.4
$N = 36$	1	33.3	23.5
	2	22.2	44.1
Telephone Book	0	43.2	14.7
$N = 36$	1	45.9	55.9
	2	10.8	29.4
Calendar	0	42.9	23.5
$N = 36$	1	34.3	17.6
	2	22.9	58.8
Newspaper	0	33.3	8.8
$N = 36$	1	58.3	41.2
	2	8.3	50.0
Coupon	0	37.8	14.7
$N = 36$	1	62.2	70.6
	2	0.0	14.7
Grocery List	0	45.5	23.5
$N = 36$	1	33.3	23.5
	2	21.2	52.9
Letter	0	66.7	26.5
$N = 36$	1	27.3	44.1
	2	6.1	29.4
Road Map	0	57.1	23.5
$N = 36$	1	25.7	29.4
	2	17.1	47.1

the children actually used or saw used at their homes. Therefore, caregivers (N = 29) were given a list of the items used on the Functions of Print task and asked to rate whether their child knew and had experience with each item. In most cases (89%), caregivers stated that our selected items were familiar to the children. In 28 of the cases (about 11%), however, the caregiver responded that the child had no familiarity with the item. It is noteworthy that those parents often underestimated their children's print-related knowledge. In 13 of the 28 cases where the parent had indicated that the child did not know an item, the child could identify the item and in 21 of the cases the child was able to completely or partially state how it is used.

The children's errors on both the environmental print tasks (naming versions of both product and logo phases) and the functions of print tasks shed additional light on how much information about print is acquired by the end of pre-kindergarten. Children's errors on the environmental print tasks were categorized as follows: don't know (no other information provided), naming the generic product (e.g., soup instead of Campbell's chicken soup), unrelated response (e.g., "I love Mommy"), naming some other item from the task, describing the package (this seemed to be a description of the picture on the package—"brown bear" for Teddy Graham cookies), personal comment about the product (e.g., "I like that stuff"), producing a word that had some phonetic similarity to the product (e.g., "Kick Fruit" for Kix cereal). The most common error that children made when asked to name a product or its logo was to give a general name for the product, such as cereal or cookies. Forty-two percent of the children's errors were so coded. Such errors occurred both when naming products (where pictures of the product might have been available) as well as when naming the items from just the logos. Clearly these children had already appropriated some meaning from the print on the logo or product.

Children's errors on the identification portion of the Functions of Print task were also informative. Sometimes the child just responded "I don't know" (approximately 8% of the time). The remaining responses, in particular for the television guide, telephone book, coupon, and grocery list, suggested that many children who did not know exactly what these items were called nevertheless knew something about these materials. For example, both the television guide and the telephone book were usually called books or magazines or they were identified in terms of a general description of how they are used. Thus, a coupon for Cheerios was called a ticket or something you take to the market or Cheerios store. In fact, there was only one response where the child's answer did not obviously indicate an awareness that he or she was looking at printed material. That child reported that a newspaper was something you use to eat crabs with (not the response we were looking for but an understandable one, at least in Baltimore!).

Niche-Competency Relations

The second major research topic addressed here concerns the relations among parental beliefs, children's activities, and children's literacy development. The question of interest

to us was how a child's developmental niche affects his or her appropriation of literacy. Would a child growing up in a niche that fosters the view that literacy is a source of entertainment have different competencies than a child growing up in a niche that fosters the view that literacy is a set of skills to be cultivated? We began investigation of this question by computing a composite measure of an entertainment approach in the niche and a composite measure of a skills approach in the niche for each child. Composite scores consisted of information taken from the diaries kept by the parents as well as from answers to one of the interview questions. These scores were used in two types of analyses: as correlates with composite scores on the three literacy strands and as predictor variables for performance on these strands.

As discussed in the introduction, Baker et al. (1994) found that diaries of the children's activities kept by their parents in Year 1 indicated variability in the kinds of print-related activities most likely to be mentioned. Each print-related activity was categorized as falling into one of three general categories consistent with a view of literacy as: an integral ingredient of one's everyday life, a source of entertainment, and a set of skills to be cultivated. Analyses in the present report focused on the latter two categories because we thought that it was these two themes that would have more instructional implications for how literacy is fostered by families. Our hunch was supported by the way parents responded to questions about how to help children learn to read, with few families mentioning the instructional opportunities available from exposure to everyday life activities. A print-related activity was coded as "skills oriented" if it involved either the practice of literacy skills or homework activities (see Baker et al., 1994, for further discussion of coding categories). Each child's niche was assigned a "skill" score of between 0 and 2 depending upon how many of the skill categories were coded. A print-related activity was coded as "entertainment oriented" if it fell in one of the five following categories: joint book reading, independent or self-initiated reading, play involving print, incidental exposure to print while being entertained, or visits to library or book stores. Each child's niche was assigned an "entertainment" score of between 0 and 5 depending upon how many of the entertainment categories were coded. This entertainment score was then multiplied by .4 to equate for the different number of skill (2) and entertainment (5) categories. We did not count the number of print-related activities mentioned within each category but just counted the number of categories.

In Year 1, primary caregivers were involved in several hour-long interviews concerning their beliefs about how children learn and develop. One of the questions they were asked was "What is the most effective way to help your child learn to read?" Most parents gave several examples of ways to facilitate reading acquisition. Answers were scored on a 0 to 2-point scale for both skill and entertainment approaches. A score of 0 was given if no mention was made of anything that could be considered to be a skills approach (consistent with the skills approach used to code activities from the diaries). A score of 1 was given for a vague or unspecified mention of something that

Table 12. Zero-Order Correlations Between Entertainment and Skill Orientations and Three Literacy-Related Strands

	Phonological Awareness	Narrative Competence	Orientation Toward Print
Year 1, Full Sample $N = 35$			
Entertainment	.364*	.139	.508**
Skills	-.223	.277	-.130
Year 1, Low Income $N = 26$			
Entertainment	.220	.253	.352
Skills	-.041	.128	.010
Year 2, Full Sample $N = 31$			
Entertainment	.289	.481**	.459**
Skills	-.358*	-.185	-.191
Year 2, Low Income $N = 23$			
Entertainment	.243	.380	.358
Skills	-.299	-.042	-.025

*$p < .05$, **$p < .01$.

could be considered to be a skills approach. A score of 2 was given for either several skill-type examples or one that was very detailed. A parallel method of scoring was used for the entertainment approach. Interrater reliability calculated for 20% of the responses was .84.

Separate composite scores for both the skills and entertainment orientation were computed. Each composite score consisted of the print-related information from the diary and the answer to the interview question, with both sources of information weighted equally. We computed zero- order correlations between the composite scores for two orientations toward literacy and the three literacy-related strands for the Year 1 and Year 2 data. The zero-order correlations between the skills/entertainment orientations and the three literacy-related strands are presented in Table 12 and are discussed in the sections that follow. For all the following analyses the distributions of the scores in the three literacy-related strands were normalized using the Fisher r to z transformation.

We also ran several multiple regression analyses to determine how predictive either a "literacy is a set of skills" niche orientation or a "literacy is a source of entertainment" niche orientation was for the development of each of the three literacy-related strands (Phonological Awareness, Narrative Competence, and Orientation Toward Print). Separate analyses were

Table 13. Prediction of Phonological Awareness (Year 1 and Year 2, Full Sample and Low-Income Sample) from a Skill and Entertainment Orientation[a]

	R^2	R^2 Change	F (R^2 Change)	B	SE B	Beta
Year 1, Full Sample N = 35						
Entertainment	.132	.132	5.189**	.256	.121	.340
Skill	.163	.031	1.224	-.145	.131	-.177
Year 1, Low Income N = 26						
Entertainment	.048	.048	1.265	.158	.141	.224
Skill	.051	.003	.081	-.048	.167	-.057
Year 2, Full Sample N = 31						
Skill	.123	.123	4.406*	-.270	.124	-.358
Entertainment	.212	.084	3.08	.205	.117	.289
Year 2, Low Income N = 23						
Skill	.089	.089	2.155	-.283	.150	-.381
Entertainment	.196	.106	2.778	.231	.139	.139

[a]Note that Skill and Entertainment are listed in the order they entered the regression equation.
*$p < .044$, **$p < .029$.

run, with the dependent variable the composite scores on each of the three literacy-related strands for each year. Given our small sample size, we had limited power for these analyses, so findings must be regarded as tentative.

Phonological Awareness. Table 12 shows a significant correlation between an entertainment niche orientation and phonological awareness during Year 1 for the full sample of families. This correlation was positive but not significant during Year 2 (full sample) as well.

As we have mentioned, there were sociocultural differences in the nature of print-related activities reported in the diary (Baker et al., 1994). Parents from the middle-income group were significantly more likely to report activities consistent with the notion that literacy is a source of entertainment. Therefore, all analyses were repeated with just the children from the low-income groups to determine if the patterns would change. The correlations were positive but not significant. However, our sample size, especially when restricted to just low-income families, is quite small.

In general, a skills niche orientation correlated negatively with Phonological Awareness (but was significant only during Year 2, full sample). This pattern was true for both the full sample and just the low-income families.

The multiple regression correlational analyses indicated that in Year 1, an entertainment niche orientation toward literacy was the better

Table 14. Prediction of Narrative Competence (Year 1 and Year 2, Full Sample and Low-Income Sample) from a Skill and Entertainment Orientation[a]

	R^2	R^2 Change	F (R^2 Change)	B	SE B	Beta
Year 1, Full Sample N = 35						
Skill	.077	.077	2.82	.259	.143	.301
Entertainment	.108	.032	1.168	.142	.131	.179
Year 1, Low Income N = 26						
Entertainment	.064	.064	1.711	.182	.146	.245
Skill	.076	.012	.317	.098	.173	.111
Year 2, Full Sample N = 31						
Entertainment	.232	.232	9.042*	.369	.123	.477
Skill	.262	.030	1.177	-.148	.136	-.173
Year 2, Low Income N = 23						
Entertainment	.144	.144	3.709	.330	.170	.408
Skill	.160	.016	.397	-.121	.192	-.129

[a]Note that Skill and Entertainment are listed in the order they entered the regression equation.
*$p < .005$.

predictor of Phonological Awareness, accounting for 13% of the variance, $F(1,34) = 5.19$, $p < .03$. A skills approach toward the development of literacy did not account for a significant percentage of the remaining variance. In Year 2, a skills orientation toward literacy was the better predictor of Phonological Awareness, accounting for 12% of the variance, $F(1,30) = 4.41$, $p < .05$ (see Table 13). Recall, however, that the zero-order correlation between the skills orientation and Phonological Awareness was negative. An entertainment approach toward the development of literacy did not account for a significant percentage of the remaining variance.

Narrative Competence. An entertainment approach was significantly correlated with Narrative Competence only during Year 2, full sample (see Table 12). None of the other zero-order correlations were significant.

The multiple regression correlational analyses showed that neither a skills approach nor an entertainment approach accounted for a significant portion of the variance in Year 1 for the complete sample of children (see Table 14). In Year 2, an entertainment approach to literacy was the better predictor of Narrative Competence. It accounted for 23% of the variance, $F(1,30) = 9.04$, $p < .005$. A skills orientation approach accounted for no additional significant variance.

Table 15. Prediction of Orientation Toward Print (Year 1 and Year 2, Full Sample and Low-Income Sample) from a Skill and Entertainment Orientation[a]

	R^2	R^2 Change	F (R^2 Change)	B	SE B	Beta
Year 1, Full Sample $N = 35$						
Entertainment	.258	.258	11.818**	.378	.114	.499
Skill	.261	.004	.176	-.052	.124	-.063
Year 1, Low Income $N = 26$						
Entertainment	.124	.124	3.526	.246	.133	.353
Skill	.124	.000	.006	-.013	.159	-.015
Year 2, Full Sample $N = 31$						
Entertainment	.211	.211	8.021*	.362	.127	.459
Skill	.248	.037	1.416	-.160	.135	-.192
Year 2, Low Income $N = 23$						
Entertainment	.128	.128	3.236	.319	.172	.387
Skill	.142	.013	.326	-.106	.186	.119

[a]Note that Skill and Entertainment are listed in the order they entered the regression equation.
*$p < .008$, **$p < .002$.

Again these analyses were repeated with just the low-income children. The pattern in both Years 1 and 2 was the same as with the full sample; however, none of the findings were significant.

Orientation Toward Print. As indicated in Table 12 an entertainment niche orientation was significantly related to an Orientation Toward Print during both Year 1 and Year 2 for the full sample. The relation, although positive, was not significant for the low-income sample. There was no significant relation between a skills niche orientation and an Orientation Toward Print.

The multiple regression correlational analyses showed that in both Year 1 and Year 2, an entertainment niche orientation was the better predictor of Orientation Toward Print. In Year 1, it accounted for 26% of the variance, $F(1,34) = 11.82$, $p < .002$. In Year 2, it accounted for 21% of the variance, $F(1,30) = 8.02$, $p < .008$. A skills orientation accounted for no significant additional variance in either Year 1 or Year 2.

As before, these analyses were repeated with just the low-income children. Although the pattern was the same as with the full sample, there were no significant relations.

Discussion

One of the general issues addressed by our larger ongoing research project is the degree to which the activities a child engages in at home (which in themselves are determined by the interrelations among parental beliefs, available material resources, family activity patterns, and interests of the child) varies among children of different sociocultural groups and how these activities relate to and predict the development of and engagement in reading. In a previous report (Baker et al., 1994), we addressed the nature of our focal children's home-based activities. In this report, we considered the nature of preschool children's emerging literacy competencies. We began by presenting data showing children's literacy-related skills at the outset of the project and some changes that occurred during the next year. We then considered how aspects of the children's home niche are predictive of these early literacy-related skills.

Developmental Competencies and Changes During Preschool

Based on a review of the literature and our own understanding of literacy, we selected measures designed to tap three aspects of literacy-related skills: Phonological Awareness, Narrative Competence, and Orientation Toward Print. We will explore in the future the relation between the activities the children engage in at home and development of skills in each of these three strands. We also will see how performance on these three strands predicts later literacy acquisition.

All of the children in this study, during pre-kindergarten, had some knowledge of many early literacy-related skills. For the most part, they did better when asked to perform tasks that more directly tapped their knowledge of the print found in their homes. Thus, during pre-kindergarten they did better on tasks requiring them to recognize products found at home or logos from those products than they did on many of the other tasks, such as tasks tapping phonemic awareness.

Even children's errors on certain of the Orientation Toward Print tasks suggest that by pre-kindergarten the children are aware of many types of print available at home. When they could not correctly identify an item, their answers showed that they usually knew that the item contained print. When asked to name an item or state how it is generally used in the Functions of Print task, the majority of the children's "errors" were reasonable answers. For example, stating that a calendar is something you use to recall birthdays is one use that many people make of calendars.

These findings provide support for the importance of considering the context within which development occurs and is assessed. All children growing up in a society like that here in the United States have many, varied exposures to literate activities. Nevertheless, the nature of activity to which a child is exposed may differ due to the child's sociocultural background (Heath, 1983; Taylor, 1983; Taylor & Dorsey-Gaines, 1988). By testing children's emerging competencies through tasks employing objects that the children used and saw used at home, we were able to demonstrate that even in pre-kindergarten the major-

ity of the children had an awareness and an understanding about various forms of print available in their homes.

Evidence that children come to school with knowledge about everyday forms of print could be used as a basis for teachers to plan instructional programs. As Wells (1986) has suggested, every child comes to school with certain competencies which the teacher must develop and build upon. The trick is for the teacher to identify these competencies and devise appropriate educational programs.

By the time the children were tested at the end of kindergarten, their early-literacy related knowledge had improved significantly in many areas. They continued to improve in their recognition, identification, and understanding of the usage of products found at home. They also improved in their phonological awareness and formal letter recognition skills. Some of this increased knowledge no doubt was due to the beginning of formal instruction in kindergarten. In addition, children's increased knowledge of the print in their environments during pre-kindergarten may have heightened their interest and led to increased receptivity to learning.

As we continue following these children, we will assess how predictive these early literacy-related skills are of more formal literacy skills.

Niche-Competency Relations

Having documented some of the children's early literacy competencies, we wanted to determine how the child's home niche relates to the development of these literacy-related skills. For this report, we considered two aspects of the child's niche: parental answers to an interview question and parental reports of their children's activities. We tested whether a child living in a niche that is oriented toward the view that literacy is a source of entertainment is more or less likely to develop competence in the three early literacy-related strands than one who is living in a niche that is oriented toward the view that literacy is a set of skills to be acquired. Although we presented the data as either an entertainment *or* a skills orientation, many families clearly reported activities reflecting both orientations. Such findings are consistent with Taylor and Dorsey-Gaines (1988), who showed the range of literate activities engaged in at home by low-income families. Nevertheless, low-income families in our study were more likely than middle-income ones to focus on fostering skills as a means of socializing reading (Sonnenschein & Munsterman, 1995).

The data appear to strongly support the notion that living in a niche more consonant with the view that literacy is a source of entertainment is correlated with the development of literacy-related skills. Consider the zero-order correlations presented in Table 12 for the full sample. An entertainment approach was significantly and positively related to Phonological Awareness (Year 1), Orientation Toward Print (Year 1 and Year 2), and Narrative Competence (Year 2). In all cases (even when the correlation failed to reach significance), the correlation between an entertainment orientation and the literacy-related strands was positive. In all cases (except for Narrative Competence, Year 1), the correlation between

a skills orientation and the literacy-related strand was either near zero or negative. In fact, there was a significant negative correlation between a skills orientation and Phonological Awareness (Year 2). The correlations for the low-income sample showed the same pattern but failed to attain significance, probably due to the smaller sample size.

Findings from the multiple regression analyses further support the importance of an entertainment orientation. Such an orientation was the best predictor of an Orientation Toward Print (full sample) and aspects of Narrative Competence (story understanding, full sample). Again the findings for the low-income sample, while in the same direction, did not reveal significant relations. The results for Phonological Awareness were more complex. In Year 1 (full sample), an entertainment orientation was the better predictor. In Year 2, a skills orientation was the better predictor *but* it was negatively correlated with the strand.

This evidence of the importance of an entertainment approach to fostering literacy-related skills seems to be consistent with frequently recommended pedagogical practices. That is, children in the primary grades are encouraged to read trade books rather than basals, and phonics skills are either not taught or taught within the context of the actual reading task. Delpit (1986) has questioned the utility of such a teaching approach for low-income African Americans because of concerns voiced by parents and community members that these children have limited opportunities to acquire necessary skills. Our data suggest that, at least when one considers home-based experiences, children in preschool do better when they are exposed to an entertainment orientation. This appeared to be true for both the full sample as well as just the low-income children.

How do we explain the negative relation in Year 2 between a skills orientation and Phonological Awareness? We present two possible hypotheses which further research should consider. One, an entertainment orientation is effective and a skills orientation is not. Within this hypothesis are several possibilities. One possibility is that the two approaches could be differentially engaging to the children. If so, children might be more attentive or even spend more time in literate activities framed within an entertainment context. Another possibility is that parents who took a skills orientation either taught inappropriate or irrelevant skills. Our orientation composites do not include observations of activities, so we cannot rate the quality of instruction. Two, perhaps the skills orientation does not lead to lower phonological awareness but rather parents who take such an approach are reacting to what they believe is less advanced competence on the part of their child. At this time, we are not able to determine which hypothesis is the better answer.

What is available at home, while extremely important, is not the entire story; the nature of the school experiences is also important. As part of the Early Childhood Project, we have interviewed the teachers of these children. Most of the teachers thought that academic skills were important for preschool children; nevertheless, they thought social skills and self-esteem were more important than academic skills. Teachers endorsed each of the literacy themes (entertainment, skills, and intrinsic ingredient of everyday life) for their kindergar-

ten students. However, they considered literacy as a set of skills the least relevant for the children. These teachers reported classroom activities consistent with each of the three themes. Thus, according to teacher reports, the children at school also were getting a broad exposure to literacy-facilitating activities.

One limitation of this study is that the sample is relatively small. Thus, we had limited power to explore sociocultural similarities and differences. We are in the process of enlarging our sample and intend to investigate sociocultural factors with a larger sample size. One of the premises underlying the Early Childhood Project is that a person's beliefs and practices are at least in part a function of one's sociocultural background. Thus, we would not be surprised to learn that low-income African-American families have different notions about aspects of child rearing than do low-income European-American families. It is quite possible that certain important predictors of literacy for one sociocultural group may not be so for another group. On the other hand, our current data suggest that providing children with experiences consistent with the notion that literacy is a source of entertainment was the more powerful predictor of important early literacy competencies for low-income as well as for middle-income children.

Author Note. Additional support for this research was provided by the National Institute of Child Health and Human Development (PROJECT NO. R01 HD29737-01A1). The findings and opinions do not reflect the position or policies of NICHD. The research represents a collaborative effort, and we are very appreciative of the contributions of our other colleagues on the research team during 1992–1994: Hibist Astatke, Marta Caballeros, Marie Dorsey, Victoria Goddard-Truitt, Linda Gorham, Susan Hill, and Tunde Morakinyo.

References

Baker, L., Serpell, R., & Sonnenschein, S. (1995). Opportunities for literacy-related learning in the homes of urban preschoolers. In L. Morrow (Ed.), *Family literacy: Connections in schools and communities* (pp. 236–252). Newark, DE: International Reading Association.

Baker, L., Sonnenschein, S., Serpell, R., Fernandez-Fein, S., & Scher, D. (1994). *Contexts of emergent literacy: Everyday home experiences of urbanpre-kindergarten children* (Research Report No. 24). Athens, GA: NRRC, Universities of Georgia and Maryland College Park.

Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.

Browne, E. (1991). *Where's that bus?* New York: Simon & Shuster.

Bryant, P. E., Bradley, L., MacLean, M., & Crossland, J. (1989). Nursery rhymes, phonological skills, and reading. *Journal of Child Language, 16*, 407–428.

Bryant, P. E., MacLean, M., Bradley, L., & Crossland, J. (1990). Rhyme and alliteration, phoneme detection, and learning to read. *Developmental Psychology, 26*, 429–438.

Clay, M. M. (1979). *Reading: The patterning of complex behavior* (2nd ed.). Aukland, New Zealand: Heinemann.

Collins, A., Brown, J. S., & Newman, S. E. (1989). Cognitive apprenticeship: Teaching the

crafts of reading, writing, and mathematics. In L. B. Resnick (Ed.), *Knowing, learning, and instruction* (pp. 453–494). Hillsdale, NJ: Erlbaum.

Delpit, L. D. (1986). Skills and other dilemmas of a progressive Black educator. *Harvard Educational Review, 56*, 379–385.

Dickinson, D. (1991). Teaching agenda and setting: Constraints on conversation in preschool. In A. McCabe & C. Peterson (Eds.), *Developing narrative structure*. Hillsdale, NJ: Erlbaum.

Fernandez-Fein, S. (1995). *Rhyme and alliteration sensitivity in preschoolers from different sociocultural backgrounds*. Unpublished master's thesis, University of Maryland Baltimore County.

Gallimore, R., & Goldenberg, C. (1993). Activity settings of early literacy: Home and school factors in children's emergent literacy. In E. Forman, N. Minick, & A. Stone (Eds.), *Education and the mind: The integration of institutional, social, and development processes*. Oxford University Press.

Goldenberg, C., Reese, L., & Gallimore, R. (1992). Effects of literacy materials from school on Latino children's home experiences and early reading achievement. *American Journal of Education, 100*, 497–537.

Goodman, K. S. (1979). The know-more and the know-nothing movements in reading: A personal response. *Language Arts, 56*, 657–663.

Goodnow, J. J., & Collins, W. A. (1990). *Development according to parents: The nature, sources, and consequences of parents' ideas*. Hillsdale, NJ: Erlbaum.

Goswami, U., & Bryant, P. E. (1990). *Phonological skills and learning to read*. Hillsdale, NJ: Erlbaum.

Hansen, J., & Bowey, J. A. (1994). Phonological analysis skills, verbal working memory, and reading ability in second-grade children. *Child Development, 65*, 938–950.

Harste, J. C., Burke, C. L., & Woodward, V. A. (1982). Children's language and world: Initial encounters with print. In J. A. Langer & M. T. Smith-Burke (Eds.), *Reader meets author/bridging the gap* (pp. 105–131). Newark, DE: International Reading Association.

Hatano, G. (1986). How do Japanese children learn to read: Orthographic and eco-cultural variables. In B. Foorman & A. Siegel (Eds.), *Acquisition of reading skills: Cultural constraints and cognitive universals*. Hillsdale, NJ: Erlbaum.

Heath, S. B. (1983). *Ways with words: Language, life, and work in communities and classrooms*. Cambridge, MA: Harvard University Press.

Hiebert, E. H. (1981). Developmental patterns and interrelationships of preschool children's print awareness. *Reading Research Quarterly, 16*, 236–260.

Hiebert, E., Cioffi, G., & Antonak, R. F. (1984). A developmental sequence in preschool children's acquisition of reading readiness skills and print awareness concepts. *Journal of Applied Developmental Psychology, 5*, 115–126.

Hill, S. (1994). *Culture, context, and personal narrative*. Unpublished master's thesis, University of Maryland Baltimore County.

Lomax, R. G., & McGee, L. M. (1987). Young children's concepts about reading: Toward a model of word reading acquisition. *Reading Research Quarterly, 15*, 237–256.

MacLean, M., Bryant, P., & Bradley, L. (1987). Rhymes, nursery rhymes, and reading in early childhood. *Merrill-Palmer Quarterly, 33*, 255–281.

Mason, J. M. (1980). When do children begin to read: An exploration of four-year-old children's letter and word reading competencies. *Reading Research Quarterly, 15*, 203–227.

McCabe, A. & Peterson, C. (1991). *Developing narrative structure*. Hillsdale, NJ: Erlbaum.

Morrow, L. M. (1983). Home and school correlates of early interest in literature. *Journal of Educational Researcher, 76*, 221–230.

Morrow, L. M. (1989). *Literacy development in the early years*. Englewood Cliffs, NJ: Prentice-Hall.

Rogoff, B. (1990). *Appenticeship in thinking*. New York: Oxford University Press.

Rogoff, B., & Morelli, G. (1989). Perspectives on children's development from cultural psychology. *American Psychologist, 44*, 343–348.

Scribner, S., & Cole, M. (1981). The psychology of literacy. Cambridge, MA: Harvard University Press.

Serpell, R. (1973). Applications of attention theory to teaching in schools for the severly subnormal. In A. D. B. Clarke & A. M. Clarke (Eds.), *Mental retardation and behavior research* (pp. 167–180). Edinburgh and London: Churchill Livingstone.

Serpell, R. (1976). *Culture's influence on behavior*. London, England: Methuen.

Serpell, R. (1979). How specific are perceptual skills? A cross-cultural study of pattern reproduction. *British Journal of Psychology, 70*, 365–380.

Serpell, R. (1993a). *The significance of schooling: Life-journeys in an African society*. Cambridge: Cambridge University Press.

Serpell, R. (1993b). Interface between socio-cultural and psychological aspects of cognition: A commentary. In E. Forman, N. Minick, & A. Stone (Eds.), *The institutional and social context of mind: New directions in Vygotskian theory and research* (pp. 357–368). Oxford: Oxford University Press.

Serpell, R., Sonnenschein, S., Baker, L., Hill, S., Goddard-Truit, V., & Danseco, E. (1995). *Parental ideas about development and socialization of children on the threshold of schooling*. Manuscript in preparation.

Snow, C. E. (1991). The theoretical basis for relationships between language and literacy in development. *Journal of Research in Childhood Education, 6*, 5–10.

Sonnenschein, S., Brody, G., & Munsterman, K. (1995). The influence of family beliefs and practices on children's early reading development. In L. Baker, P. Afflerbach, & D. Reinking (Eds.), *Developing engaged readers in school and home communities* (pp. 3–20). Hillsdale, NJ: Erlbaum.

Sonnenschein, S., & Munsterman, K. (1995). *Parents' of preschoolers attitudes about the importance of learning to read and related practices*. Paper presented at meetings of the Society for Research in Child Development, Indianapolis, IN.

Sulzby, E. (1985). Children's emergent reading of favorite storybooks: A developmental study. *Reading Research Quarterly, 20*, 458–481.

Sulzby, E., & Teale, W. (1991). Emergent literacy. In R. Barr, M. LeKamil, P. Mosenthal, & P. D. Pearson (Eds.), *Handbook of reading research* (2nd ed., pp. 727–758). New York: Longman.

Super, C., & Harkness, S. (1986). The developmental niche: A conceptualization at the interface of child and culture. *International Journal of Behavioral Development, 9*, 545–569.

Taylor, D. (1983). *Family literacy: Young children learning to read and write*. Exeter, NH: Heinemann.

Taylor, D., & Dorsey-Gaines, C. (1988). *Growing up literate: Learning from inner-city families*. Portsmouth, NH: Heinemann.

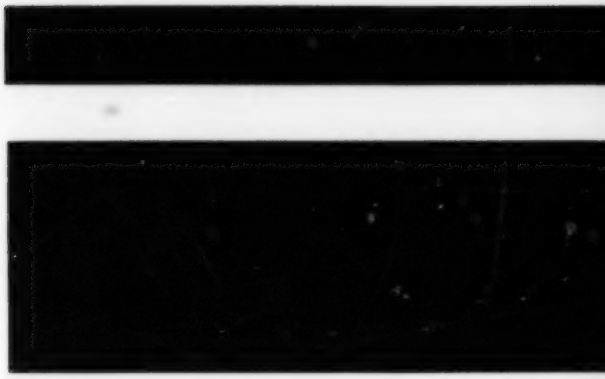
Vygotsky, L. S. (1978). *Mind in society*. Cambridge, MA: MIT Press.

Wells, G. (1985). Pre-school literacy-related activities and success in school. In D. R. Olson, N. Torrance, & A. Hildyard (Eds.), *Literacy, language, and learning*. Cambridge: Cambridge University Press.

Wells, G. (1986). *The meaning makers: Children learning language and using language to learn*. Portsmouth, NH: Heinemann.

Wertsch, J. M., Tulviste, & Hagstrom (1993). A socio-cultural approach to agency. In E. Forman, N. Minick, & A. Stone (Eds.), *Education and the mind: The integration of institutional, social, and developmental processes*. Oxford: Oxford University Press.

Zeaman, D., & House, B. J. (1963). The role of attention in retardate discrimination learning. In N. R. Ellis (Ed.), *Handbook of mental deficiency* (pp. 159–223). New York: McGraw-Hill.



NRRC National
Reading Research
Center

318 Aderhold, University of Georgia, Athens, Georgia 30602-7125
3216 J. M. Patterson Building, University of Maryland, College Park MD 20742